Hospitals' Transitions to Increased Outpatient Care: Is There an Impact on Hospital-Wide 30-day Readmissions? An Analysis of Data from the Centers for Medicare and Medicaid Services, 2014-2023

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BACKGROUND

Policy and technology are driving a rapid site-of-care shift.

The Drivers	The Shift	The Unknowns
Centers for Medicare & Medicaid Services (CMS) policies phasing out many inpatient-only procedures coupled with rapid advances in medical technology [1-3].	Hospitals are steadily shifting care to outpatient settings, resulting in rising gross outpatient revenue and higher expenditures for outpatient care [4-7].	Increasing outpatient care could reduce resources for inpatient care and increase readmission rates, an important endpoint in some intervention, quality and patient outcome studies.

RESEARCH OBJECTIVE

To explore the relationship between the total outpatient hospital revenue to total hospital revenue (OPR/TR), as a measure of hospitals' transitions to outpatient care, and the hospital-wide 30-day, all-cause unplanned, readmission rate (HWR) over a 10-year period.

METHODS

This cohort study included acute care short-term stay hospitals that reported data to CMS between 1/1/14 and 12/31/2023 and had at least two years of data. Excluded were those exempt from the CMS Prospective Payment System. Publicly available CMS Medicare hospital data were used and incorporated into the 6MC database (https://6mc.health (Table 1). Provider ID linked the data across study years.

Provider of Services: source for hospital geographic location and governance. Cost Reports: sources for OPR/TR, number of acute care beds, Graduate Medical Education status, disproportionate share percentage (DSP). DSP is a composite measure of a hospital's care for low-income patients determined by the percentage of its inpatient days attributable to patients Medicaid not entitled to Medicare Part A or those eligible for Medicare Part A and SSI, or are uninsured [8].

Hospital Compare: source for HWR. CMS defines a 30-day readmission as any *unplanned* inpatient admission to any acute-care hospital within 30 days of discharge, across all conditions, from the index hospitalization, excluding planned readmissions and is fully risk-adjusted for patient factors. CMS reports a risk-standardized readmission rate as a percentage. Medicare FFS beneficiaries aged 65+ years meeting clinical and administrative criteria were the eligible patients for the measure [9].

The Predictor Variable Hospital (OPR/TR)	The Endpoint Variable 30-Day Hospital-Wide Readmission Rate (HWR)
Metric: Total Outpatient Revenue to Total Hospital Patient Revenue. **Rationale:** Deemed by hospital administration subject matter experts and the literature as the most uniformly recorded and precise measure of overall hospital financial activity over time [10].	**Metric:** Risk-standardized HWR **Definition:** Any unplanned, all-cause inpatient admission to any acute care hospital within 30 days of discharge, except defined exclusions (e.g., LOS 365+ d). **Population:** Inpatient Medicare FFS hospitalizations for those aged 65+y. **Adjustment:** Risk-adjusted for patient factors (including age, comorbidities, clinical severity).

METHODS (CONT'D)

Table 1. CMS Data Sources Incorporated by 6MC

Provider Profiles:	Cost Reports:	Hospital Compare:
Urban/Rural, Governance	Acute care beds, GME status, DSP, OPR/TR	30-day readmission measure

Analysis: Mixed linear models (SAS ver. 9.4) estimating readmission rates, adjusting for hospital-based covariates, repeated measures over time, with 95% confidence intervals.

RESULTS

Characteristics of the study hospital cohort (n=3406) from first year of reporting were: not-for-profit, 62.1%, for-profit, 23.9%, government, 14.0%; urban, 72.8%; and GME present 30.6%. From the first year reported, the median and 25th and 75th percentiles were: number of acute care beds 137 (63, 254); disproportionate share 0.126 (0.073, 0.214); and OPR/TR 0.542 (0.432, 0.660) (Fig. 1 and Table 2). Between 2014 and 2023, the adjusted HWR declined from 15.7% to 14.7%; while the OPR/TR increased from 56.2% to 63.4% (Table 3).

Figure 1. Governance and Geographic Location of Hospital Cohort (n=3406)

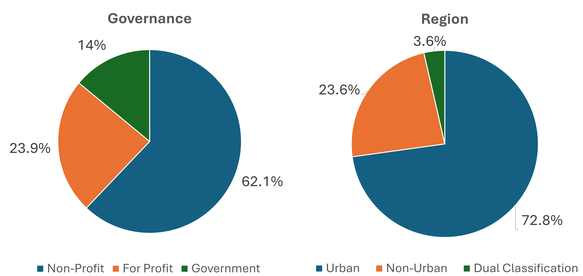


Table 2. Graduate Medical Education, Acute Care Beds, and DSP of Hospital Cohort (n=3406)

Cohort Characteristics	Value
Graduate Medical Education Hospital	30.6%
Number of Acute Care Beds median, 25th to 75th Percentile	137 (63, 254)
Disproportionate Share Percentage (DSP), median, 25th & 75th Percentile	(0.073, 0.214)

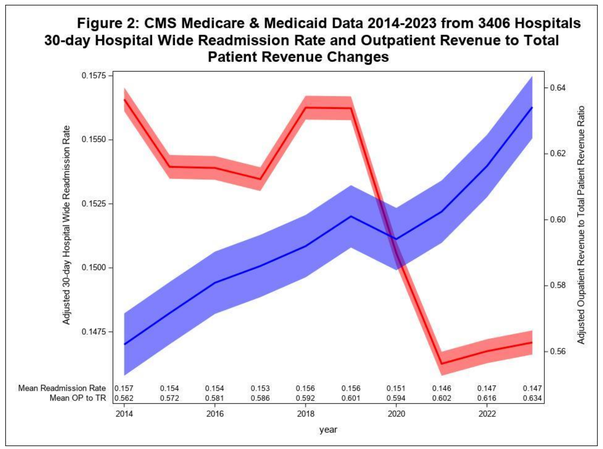
RESULTS (CONT'D)

Table 3. OPR/TR and Hospital-Wide Readmission Rates (HWR), 2014-2023

Metric	2014	2023	Absolute Difference
OPR/TR	56.2%	63.4%	+7.2 (95% CI: 6.8, 7.6)
HWR	15.66%	14.71%	-0.95 (95% CI: -0.98, -0.93)

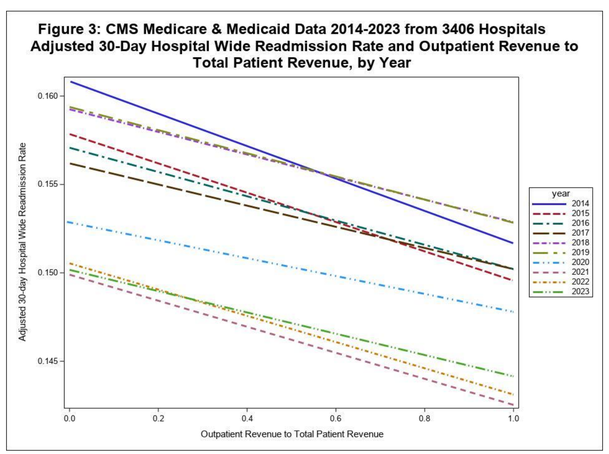
By study year, the OPR/TR continued to increase while the HWR fell, with exceptions for years 2017-2019 and 2021 where increases were observed (Figure 2).

Figure 2: CMS Medicare & Medicaid Data 2014-2023 from 3406 Hospitals 30-day Hospital Wide Readmission Rate and Outpatient Revenue to Total Patient Revenue Changes



Overall study years, a statistically significant inverse linear relationship between OPR/TR to 30-day Hospital-Wide Readmission Rate (beta = -0.003, p < 0.001) (Figure 2), although the strength of the relationship varied by year (Figure 3).

Figure 3: CMS Medicare & Medicaid Data 2014-2023 from 3406 Hospitals Adjusted 30-Day Hospital Wide Readmission Rate and Outpatient Revenue to Total Patient Revenue, by Year



CONCLUSIONS

Empirical Finding:
Hospitals' increasing transitions to outpatient care (measured by OPR/TR) was associated with decreasing adjusted 30-day hospital-wide readmissions in those aged 65+ years receiving Medicare FFS.

Implications for Practice or Policy:
Hospital readmission rates may change over years. Caution is needed by policymakers and researchers when selecting the referent rate (and referent population) for:

- Planning or comparing studies
- Evaluating quality of care programs
- Developing future healthcare policies

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